RECOVERY – FY09 Replacement of the Refrigeration Plant at Bldg No. 9

QUESTIONS & RESPONSES

NOTICE: Attachments provided with these Government responses shall be amended to Attachment J, GOVERNMENT FURNISHED INFORMATION, and shall be considered applicable documents to the contract.

(1) QUESTION: Specifications allow the specification writer the option to define who receives and approves shop drawings. Can the government provide some guidance on what submittals they would like to:
   a) Review and approve
   b) Just provide for information only?

NASA RESPONSE: Please see Section H.9 SUBMITTALS – DESIGN AND CONSTRUCTION of the model contract for the Government's definition of drawings and how drawing submittals are to be processed. The specification writer is expected to develop each technical specification in accordance with the contract requirements, including the assignment of "G" and "A" submittals. The Government will work collaboratively with the specification writer to determine these "G" and "A" assignments in a manner that balances the Government's interest in critical submittals with the intent and philosophy of the design-build project delivery method.

(2) QUESTION: Although solicited as a Design/Build, the RFP states that all construction specifications require approval by the COTR prior to the commencement of any work. Does the government intend to approve and control all aspects of the design and construction? Is the project being managed by the government COTR, or will the Design/Build Contractor have the authority to proceed with concurrent design and construction without seeking approval?

NASA RESPONSE: Please see Section H.9 SUBMITTALS – DESIGN AND CONSTRUCTION of the model contract for information on the content of submittals. The Government will conduct quality assurance in accordance with the terms of the contract documents, which includes the Issued For Construction (IFC) submittals. These IFC submittals establish, for both the Government and the Contractor, the expectations for the final products. Therefore, the Government's expectation is that the Contractor develop the design, communicate that design to the Government and secure the Government's acceptance (by way of the IFC submittals), then execute in accordance with IFC documents. The Government would further expect that changes and deviations from those IFC documents be communicated to and approved by the Government. The Contractor is expected to plan for and coordinate submittal delivery such that disruptions to the field efforts are mitigated to the maximum extent possible.

(3) QUESTION: A Critical Design Review (CDR) is required prior to system fabrication. The acquisition process that uses a CDR is normally associated with either a Design-Bid-Build or some other acquisition strategy. How will the CDR review process be integrated into a Firm Fixed Price Design/Build?

NASA RESPONSE: NASA utilizes a CDR process for all major acquisitions. As such, NASA has established that the design and integration of the heat exchanger is of sufficient criticality to the facility, and hence Government's interest, that a CDR is warranted. The Contractor should consider this critical check point in the development of the proposal.

(4) QUESTION: Under a Firm Fixed Price, the Contractor bares all of the responsibility and risk for delivering on time and at the agreed upon price. Concerning the "H.6 1852.235-75 Partnering for Construction Projects", what contractual risk are the other partners assuming and how?

NASA RESPONSE: The Government uses the partnership development workshop described under H.6(d) as a opportunity to establish the framework for a cooperative and mutually beneficial partnership between all parties involved in the project. This is an opportunity for the group to collectively discuss objectives, processes, procedures, teaming arrangements, issue resolution strategies, basic expectations, innovations and ideas such that all parties may achieve a common understanding of the project. The desired outcome is an understanding that allows the Government-Contractor team to deliver a quality project in a collaborative and communicative environment. Typically, neither the Government nor the Contractor incurs any additional cost as a result of this partnership development workshop. In the event that costs may be incurred H.6(e) establishes the contractual terms of those costs.

(5) QUESTION: Do all of the requirements contained in the GFI cited NASA SpecsIntact Master Guideline Specifications apply? Or have the specifications already been tailored to the project? If the tailored specifications already exist, can they be provided now to ensure a more accurate basis of estimate? (reference: SOW, paragraph 1.03.A.7 - Government Furnished Information (GFI)

NASA RESPONSE: The specifications included under 1.03.A.7(a) and 1.03.A.7(b) are applicable documents and are to be considered "Approved" by the Government as issued for the project. These specifications establish the Government's expectations for the administration of the project.

(6) QUESTION: Concerning the SpecsIntact system, which specifications will the Contractor be required to produce and submit using the SpecsIntact Master Guideline and GRC "Local" index? Is it the purview of the Design/Build Contractor to determine which specifications are required, or will NASA direct which SpecsIntact system specification must be submitted?

NASA RESPONSE: The Government expects that the Contractor will develop specifications pertaining to all needs of the project in accordance with the SOW, Section 2.02 CONSTRUCTION SPECIFICATIONS. The Master index provided herein and referred to by the SOW was inadvertently omitted from Attachment J, Government Furnished Information.

It is a NASA policy that all construction specifications are to be produced using SpectsIntact. SpecsIntact sections have been reviewed and approved for compliance with Executive Orders. Similarly, GRC Local specifications have been developed for compliance with Glenn-specific requirements.

(7) QUESTION: Will the Contractor be allowed to edit the work, process, craftsmanship, and technical requirements contained in the SpecsIntact Master Guideline and GRC "Local" index when producing specifications? Or would edit of these requirements result in disapproval of the specification?

NASA RESPONSE: The specifications, as developed and edited by the Contractor, are expected to fulfill the requirements of the contract documents. The Government will review and approve the specifications for compliance with the contract requirements.

(8) QUESTION: Is the Contractor responsible for the outcomes of System Validation? Or, is the Contractor only responsible for preparing and executing the System Validation Plan? If the Contractor is responsible for System Validation outcomes, is there an Operational Concept available to use as the basis for System Validation activities?

NASA RESPONSE: The Contractor shall be responsible for the wind tunnel to meet the all performance requirements of the SOW. If at the final testing and verification phase of the contract the tunnel does not meet the performance requirements, the Contractor shall be required to take the necessary corrective steps to meet the SOW requirements, since this will be a fixed price construction contract it will be at no additional expense to the Government. SOW Section 3.03.8 establishes that the Contract shall develop the Concept of Operations for the systems under design. The Government will assist the Contractor in this development by providing relevant information on the IRT operations.

(9) QUESTION: In regards to section "D. Price Evaluation Factor", are we correct that the Government will not use weighting and scoring in this area. How with the Government evaluate both the financial prices and labor hours proposed. Although Price is not adjectively scored, it is important in determining the Offeror's understanding of the requirements of the RFP and the resources required to achieve successful completion. Proposals will be evaluated to determine if prices are unbalanced.

NASA RESPONSE: NASA will not use weighting in the evaluation of the Price proposal. NASA will review the price proposal for reasonableness in comparison to a Government project cost estimate. Labor hours will be reviewed for reasonableness and to establish the relationship between labor hours proposed, material costs and incurred overheads.

(10) QUESTION: In regards to section "E. Relative Importance of Evaluation Factors", For the purpose of selection, Mission Suitability is more important than Price, which is more important than Relevant Experience and Past Performance?

NASA RESPONSE: Correct.

(11) QUESTION: The proposed building is located on top of the existing utility tunnel. Can we get construction drawings for the utility tunnel?

NASA RESPONSE: Refer to Drawings EE-861, EE-861A, EE-861B and EE-861C for the details of the electrical tunnel between Building 9 and Building 11.

(12) QUESTION: For the existing cooling tower system, what are (a) the design cooling water flow rate, (b) the design supply temperature, and (c) the design temperature difference (delta T)?

NASA RESPONSE: Refer to the NASA Facilities Design Policies and Guidelines under the Mechanical Section, Part S.7 for the general system description. Additionally,

Design Supply Temp = 68 deg F winter and 65 deg F summer (may rise to low 70 deg F)

Design Temp Difference (delta T) = ranges between 2 to 8 deg F

(13) QUESTION: NASA has specified the maximum pressure drop for the new heat exchanger in the technical requirements section of the statement of work as follows: "The pressure drop across the heat exchanger shall not exceed 3 inches of water during a 90 minute water spray at a test section airspeed of 250 kts at any tunnel air temperature". Please confirm that the successful bidder is not required to guarantee that a maximum speed of 350 kts can be achieved, but that the successful bidder is bound by the heat exchanger pressure drop requirement given above.

NASA RESPONSE: The Government expectation is that the cited requirement shall be met. Conditions in the tunnel decrease the maximum speed above 250 kts. Therefore, the achievement of the cited requirement would be impacted when the tunnel operates above 250 kts.

(14) QUESTION: SOW Pg 12 Reference to minimum drawings calls for a SWP3 plan. Are we to figure the cost of preparing a storm water pollution prevention plan for this project or are we exempt or will we follow NASA's SWP3. Also the "Required Documents" on pg 24 references the SWP3 and it sounds like one would be required. Under those conditions can we be added to the existing site permit? Otherwise this could be costly and time consuming.

NASA RESPONSE: Refer to the NASA Facilities Design Policies and Guidelines under the Civil Section, Part E.2 "...Regardless of the size of the project, a project specific Storm Water Pollution Prevention Plan (SWP3) shall be designed and included with the project design drawings. ..."

Also provided3 as a part of this response, the NASA GRC OEPA permit OCH00003, SPW3 general policies summary and the OEPA SWP3 Checklist for further information.

A project specific SWP3 plan for a previous project has been provided as an example. This example should be representative of the scope and content of the SWP3 plan for this project.

(15) QUESTION: SOW Pg 13 We are assuming a standard wet pipe fire sprinkler system. We anticipate no clean agent suppression systems will be used.

NASA RESPONSE: The Contractor shall propose fire protection systems that meet the applicable requirements, Codes and standards.

(16) QUESTION: SOW Pg 13-14 Electrical instrumentation grounding is noted. To what level of performance validation will this be required?

NASA RESPONSE: Should electrical instrumentation grounding be required by the Contractor's design, the level of performance validation required would be established according to the applicable codes and requirements (e.g. NEC) as provided in the technical specification.

(17) QUESTION: SOW Pg 14 2.02, Item C refers to "Local" specifications shall be used in lieu of other specification (Specs-N-Tact). This is unknown criteria and may affect construction cost and means and methods.

NASA RESPONSE: Refer to the response provided to question (6) above. The "Local" specifications are attached; however, not all of these local specifications may be applicable to the project as proposed by the Contractor.

(18) QUESTION: SOW Pg 14 2.02, Item D requires a statement with physical and functional characteristics on each drawing that allows for equal products to be selected. How, why and under what conditions would this apply under a Design Build contract?

NASA RESPONSE: SOW Section 2.02(D) is not applicable to the design-build project delivery method and hereby stricken from the Statement of Work.

(19) QUESTION: SOW Pg 18 Item B. Who is required to attend weekly project meetings and is it required to be on-site or virtual.

NASA RESPONSE: The Government would expect that at a minimum, the Contractor's Project Manager, Engineer of Record (or his/her Design Manager) and Project Superintendent (Construction Manager/Supervisor) attend the weekly meetings in person as practical for the phase of the project and/or work efforts occuring. Support personnel may attend virtually as necessary to represent topics of development, discussion or concern. Please see SECTION 01 30 00 ADMINISTRATIVE REQUIREMENTS and SECTION 01 31 19.98 PROJECT MEETINGS for additional information.

(20) QUESTION: SOW Pg 19 Based on Government review of submittal comments that are **not** agreed to by the A/E/C the Government will force the change and bear the cost and delay. Is this an acceptable term of the contract?

NASA RESPONSE: The Government expects that the Contractor will acknowledge the Government's submittal comments, incorporate when appropriate and communicate the disposition of said comments. Comments excepted by the Contractor but which the Government may choose to incorporate will be done so in accordance with the Changes clause(s) of the contract, if deemed to be outside of the scope of the contract.

(21) QUESTION: SOW Pg 21 Training is not explicit such as who, how long, number of copies of documents. Our technical partners need to delineate this.

NASA RESPONSE: The Contractor shall provide in their proposal the definition of a comprehensive training program that will satisfy the intent of the project SOW.

NASA GRC personnel will differ for the various systems (e.g. institutional, process and control systems); therefore a personnel list and count for training materials is not practical for the Government to provide at this time. An average of four (4) personnel per system could be used as a guideline but shall not to be construed as all inclusive.

Duration was stated as to be defined in an associated approved project specification. Therefore, training for a specific system will be dependent on the depth of the Contractor's proposed program and the concurrence of the NASA project team.

(22) QUESTION: SOW Pg 21-22 Final acceptance punch list must have all work completed prior to final acceptance by the government. Typically acceptance may be prior to final punch list provide major punch list items have been completed. This could have major cost implications.

NASA RESPONSE: Per the SOW, closeout of final punch list items may occur after the Government has taken acceptance of the project and before final payment (refer to G.9 PROGRESS PAYMENT BREAKDOWN).

(23) QUESTION: SOW Pg 22-23 Preliminary Progress Level – Some items seem to be too advanced for a preliminary review such as hardware cut sheets, controls diagrams, hydraulic calculations for fire sprinklers, and 100% Design Report.

NASA RESPONSE: The SOW Section 3.03(B) (8) establishes the Government's expectations on the content for each level of review.

(24) QUESTION: PRD Pg 7 Architectural codes: Due to close proximity between this proposed project and other buildings most exterior walls will need to be a 1 hour fire protection and some portion will need a 2 hour fire wall where less than 5 feet occur. This would also affect opening in the walls such as doors, louvers, intakes and exhausts.

NASA RESPONSE: The Government expects that designs proposed by the Contractor meet the requirements of the contract, which would include the applicable NASA standards, building and fire Codes.

(25) QUESTION: PRD Pg 9 Reference requires a building management system. Does this mean that portions of the mechanical/electrical and occupancy sensing are to be implemented for a true and complete building management system or a version of that. This could be a minor cost or a very significant cost based upon expected performance.

NASA RESPONSE: The Government expects that designs proposed by the Contractor meet the requirements of the contract, which would include the applicable documents provided.

The following would be examples to be included with a typical building management system for GRC:

Remote control (operation) and monitoring of all HVAC.

Metering of all utilities (natural gas, steam, domestic water, electrical, etc.)

Monitoring of life safety and security (fire alarm, refrigeration detection, security, etc.)

The above items would communicate information between the Refrigeration Plant and the Central Monitoring Station(s).

The Central Station(s) will process any and all inputs / output sent or received.

NASA does not envision requiring local data graphical displays and the remote control of building interior lighting as examples.

Building management and life safety systems at GRC are managed by Siemens Landis Division. NASA recommends that the offeror contact the points of contact listed in the Facilities Design Guidelines and Procedures for additional details on the systems employed at GRC.

(26) QUESTION: PRD Pg 20 Requires all PC and network hardware to have a 3 hours UPS operation. This seems to be excessive and costly. Typical time runs are 30 to 20 minutes.

NASA RESPONSE: The scale of the connected equipment is envisioned to be relatively small (e.g. computers, PLC, other control-related systems, etc.). The duration requirement provides for the ability of IRT Operations to maintain computer software and operating system function for a desired period related to a power loss event.

(27) QUESTION: PRD Pg 26 Doors – Two means of egress from any space may not be possible without additional exterior doors. This is not indicated on the concept floor plan and is not a code requirement for all spaces.

NASA RESPONSE: The minimum requirement is for two means of egress from any space. Beyond that minimum requirement, the Government expects that designs proposed by the Contractor meet the requirements of the contract, which would include the applicable NASA standards, building and fire Codes.

(28) QUESTION: PRD Pg 28 No. 7 - Storm Water management - Due to site constraints the water retention system may be required to be a subterranean detention system. Does NASA wish to incur this cost?

NASA RESPONSE: The Government expects that designs proposed by the Contractor meet the requirements of the contract, which would include the applicable documents provided.

(29) QUESTION: PRD Pg 29 NASA's definition of "Critical Lift" for cranes is needed.

NASA RESPONSE: Please refer to NASA STD-8719.9 STANDARD FORLIFTING DEVICES AND EQUIPMENT included in the Attachment J of the RFP. Chapter 20 of the Glenn Safety Manual Chapter 20 also addresses cranes and lifting devices.

(30) QUESTION: PRD Pg 31 The new building is required to tie into the existing Energy Management System. What is the system and specs?

NASA RESPONSE: Please refer the response provided for question (25).

(31) QUESTION: Pg 31 Requirements for a siphonic roof and storm system seems extenuating for this small of a building however it is possible. Why wouldn't a gravity system work just as well?

NASA RESPONSE: The Contractor may, as part of their proposal, provide either a traditional gravity or siphonic system.

(32) QUESTION: PRD Pg 32 Item H – Why would a "Victaulic" type connection not be permitted for sprinkler piping and lower pressure pipe (less than 150 psi), etc?

NASA RESPONSE: The Fire Protection piping system is the only exception permitted to have "Victaulic" connections.

(33) QUESTION: PRD Pg 33 I'm assuming redundant power means we pull power two different sub stations on site. Is NASA saying that the high voltage side be switched over instantaneous (without power loss)or is momentary loss of power is acceptable? This has big cost implications. However if only the controls are "no loss of power" then that is cost effective.

NASA RESPONSE: Review the PRD Appendix B, Electrical Section H.5 (b) for the requirements and expectations stated. No loss of power mode shall provide power to the control equipment (e.g. computers, PLC/DCS and I/O) and building circuits without interruption (i.e. no rebooting of systems) to the connected elements. Building circuits would be considered to include at a minimum the following: emergency (or equivalent minimal) interior/exterior lighting, limited electrical receptacles, HVAC, life safety systems, security systems, leak detection systems, sump pumps, and sanitary/storm lift pumps.

(34) QUESTION: PRD Pg 34 This implies a separate instrumentation grounding system is required or does NASA simply require the instruments that the Contractor provides be grounded to the building ground? What instrumentation uses would be occurring in the new building other than what the Contractor would provide?

NASA RESPONSE: The implied separate instrumentation grounding system may be required if the Contractor's proposed design includes the installation and use of instrumentation or devices that would be adversely affected by being attached to a general safety ground.

(35) QUESTION: Are State of Ohio sales and use taxes to be included in the submitted price of the work or will NASA GRC provide a tax exemption for this work?

NASA RESPONSE: The NASA Tax Identification number is: 34-0715724, a Blanket Exemption Certificate can be provided upon award if required.

(36) QUESTION: There appear to be drawings missing from the information supplied with the RFP. Would you please provide the following drawings?

CF15427	CF15433	CF15447
CF15428	CF15434	CF15449
CF15429	CF15435	
CF15430	CF15436	
CF15431	CF15437	
	CF15438	

NASA RESPONSE: There was some confusion as to the drawing numbers provided. The drawings provided here are taken from the IRT FY 1999 / 2000 project drawing index series CF-152xxx that we assume are related to the request.

(37) QUESTION: At the site visit it was indicated that electrical power could be obtained from either Substation B (east of Building No. 9 and across the parking lot) or Substation E (west of Building No. 9 and currently feeding power to Building No. 9). Please provide duct bank drawings and details; manholes, and underground electrical power systems of the general area around Substation E, around Building No. 9, in the parking lot area east of Building No. 9, and Substation B. Please provide a one-line diagram for Substation B. Please provide drawing 106509.

NASA RESPONSE: Drawings with additional information are provided as requested.

(38) QUESTION: The drawing package provided underground water line information on Drawing CF195512. Please provide additional information on other underground utility lines / piping / duct banks (i.e. power and communication) in the area east and around Building No. 9.

NASA RESPONSE: Drawings with additional information are provided as requested.

(39) QUESTION: Page 25 of the Projects Requirements Document, paragraph D.2.a, second paragraph indicates a requirement to provide space for two additional refrigeration units in the new Refrigeration Building. Also reference page 32 paragraph (d). Elsewhere, and in Option 1 it is requested to provide one additional refrigeration unit. Please clarify the space requirement to be provided for in the new building. Is space for one or two additional refrigeration units to be provided for?

NASA RESPONSE: The requirements effectively allocates space in the building for three (3) additional refrigeration units. One space is for the redundant refrigeration unit provided under Option 1 while space is also allocated for two additional refrigeration units that may be added by NASA in the future.

(40) QUESTION: During the site visit and walk around of Building No. 9 it was indicated that there was a past failure of the cooling water return piping and that the repair included a reroute of piping through the building. Please provide information on this current configuration and flow capacity.

NASA RESPONSE: Drawings with additional information are provided as requested.

(41) QUESTION: Appendix A of the Project Requirements Document indicates that flow quality measurements will be taken at the exit of the heat exchanger. During the site visit of November 23, it was stated that flow quality measurements would be taken just upstream of the contraction section. It was also stated that NASA would provide all instrumentation and resources required to install equipment and take these measurements. Please confirm that this is correct.

NASA RESPONSE: The flow quality measurements shall be taken at Station 5 (upstream of the contraction section) as noted in the AIAA-2001-0232 *Flow Quality Surveys of the NASA Glenn Icing Research Tunnel (2000 Tests)* paper provided previously.

NASA will provide access to and will provide limited support of the existing instruments and equipment to the Contractor during validation and verification (V&V) of the installation. NASA will also provide for operation of the tunnel during the Contractor's V&V activities and will provide the utilities necessary (e.g. electricity) to conduct these tests. NASA envisions the V&V activities as being highly collaborative; however the responsibility for coordination of these activities remains the Contractor's.

Additional equipment and instruments required by the Contractor to validate and verify their installation beyond what is available at the IRT shall be the Contractor's responsibility.

(42) QUESTION: Page 31-32 of Section B, paragraph H.11, does the 15 calendars days during which all construction activities will be prohibited apply to the 120 day period allocated for the down time of the IRT?

NASA RESPONSE: Any of the fifteen (15) calendar days allotted under H.11 used during the 120 calendar day shutdown of the tunnel (incentive performance period) would be added to the 120 calendar day shutdown period as day-granted for day-used.

(43) QUESTION: The AWT Post Demo Soil Determination Reference document provided states that soils excavated up to a depth of 1'-0" are to be disposed of as a solid waste. In contrast, in the pre-bid meeting it was stated that all excavated materials are to be considered solid waste and disposed of accordingly. Are excavated materials in excess of 1'-0" in depth re-useable ... or is this material required to be disposed of as a solid waste?

NASA RESPONSE: The soil information provided was the extent of the soil removal during the AWT Demolition project. The AWT demolition project removed only the top 1'-0" of contaminated soil and replaced this with commercial industrial fill. Since co-mingling of this commercial industrial fill with spoils from deeper excavations would likely occur, any excavation depth should be treated as solid waste and/or as determined by environmental sampling performed during the execution of this project.

QUESTION: Which of the existing Carrier refrigeration units are currently in use to support IRT or other facility operations?

NASA RESPONSE: There are there (13) units located in Building 9. Today there are eight (8) units in operation. Units # 1, # 2, # 3, # 4, # 8, # 9, # 10 and # 11 currently support the IRT. Please refer to drawing CF-92226 for the physical location

(44) QUESTION: Page 16 of the SOW paragraph 2.07 indicates that the Contractor shall attend weekly project meetings scheduled by the Government. Are these weekly meetings during the construction phase only or do they also apply to the design phase?

NASA RESPONSE: The weekly project meetings encompass the entire duration of the project.

(45) REQUEST: Please extend the proposal due date from January 5, 2010 to January 29, 2010.

NASA RESPONSE: A proposal due date extension to 2:00PM EST on Friday January 15, 2010 will be granted to all offerors. NASA budget execution performance plans for Recovery Act funding require that the contract be negotiated, awarded and executed as quickly as possible. Consideration for these funding metrics prevent us from extending the proposal due date beyond January 15, 2010.

(46) QUESTION: We intend to take exception to the absolute no ice release and air flow guarantee requirements of the SOW within the context of the technical discussion presented below entitled "Heat Exchanger Air Flow and Ice Release Considerations". Will such an exception result in rejection of our proposal as non-responsive, or is NASA willing to review our submittal without

prejudice on the basis of contractor provided qualifications to the performance of the heat exchanger?

NASA Response: Eliminating the release of ice particles from the heat exchanger has been stated as a primary objective of the project. The Contractor's proposal should provide supporting engineering development addressing this problem and how the Contractor would engineer the solution. If the Contractor believes that this is an unattainable goal, the proposal should clearly state the limits of ice accretion and release that would be expected from the proposed design and how the Contractor would propose to verify/validate those limits through design and testing of the engineered systems. A Contractor proposal that takes exception to the requirement without proposing an alternative would be considered as being significantly deficient. A Contractor proposal that takes exception to the requirement while providing an alternative that acknowledges the ice accretion and shedding problem, and establishes a quantifiable reduction without complete elimination will be considered in the final evaluation of proposals. Please be aware however, that a proposal presented on this premise may be considered less favorably than a proposal that meets the requirement without exception.